Author index for papers in Volume 30

Pages are numbered consecutively through the volume: 1–124, January; 125–228, March; 229–352, May; 353–440, July; 441–568, September, and 569–671, November.

Abraham, David W., H. Jonathon Mamin, Eric Ganz, and John Clarke
492 *Surface modification with the scanning tunneling microscope*

Agarwal, Ramesh C. and James W. Cooley
145 *Fourier transform and convolution subroutines for the IBM 3090 Vector Facility*

Agarwal, Ramesh C., James W. Cooley, Fred G. Gustavson, James B. Shearer, Gordon Slishman, and Bryant Tuckerman
126 *New scalar and vector elementary functions for the IBM System/370*

Aguilar, M., P. J. Pascual, and A. Santisteban
523 *Scanning tunneling microscope automation*

Arbab, Bijan
294 Compiling circular attribute grammars into Prolog

Baldeschwieler, John D.
484 see West, Paul

Barbosa, Lineu C.
321 *A maximum-energy-concentration spectral window*

Baró, A. M., R. Miranda, and J. L. Carrascosa
380 *Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure*

Baxter, David V.
484 see West, Paul

Becker, Jordan
541 see Schroer, Peter H.

Behm, R. J.
403 see Hösler, W.

Berghaus, Th., H. Neddermeyer, and St. Tosch
518 *A scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces*

Bhushan, B.
203 see Bradshaw, R.

Binnig, G. and H. Rohrer
355 *Scanning tunneling microscopy*

Bradshaw, R., B. Bhushan, C. Kalthoff, and M. Warne
203 *Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide*

Brunner, A. J.
498 see Ringger, M.

Bryant, A.
387 Elrod, S. A.

Bullock, Joseph
635 see Winarski, Daniel J.

Büttiker, Markus and Rolf Landauer
451 *Traversal time for tunneling*

Cannon, D. M., W. R. Dempwolf, J. M. Schmalhorst, F. B. Shelledy, and R. D. Silkensen
270 *Design and performance of a magnetic head for a high-density tape drive*

Carnevali, Paolo, Piero Sguazzero, and Vittorio Zecca
574 *Microtasking on IBM multiprocessors*

Carrascosa, J. L.
380 see Baró, A. M.

Catach, Laurent
70 see Fargues, Jean

Cave, Robert J.
484 see West, Paul

Chiang, S. and R. J. Wilson
513 *Construction of a UHV scanning tunneling microscope*

Ching, Wai-Mee
594 *Program analysis and code generation in an APL/370 compiler*

Chow, William W.
635 see Winarski, Daniel J.

Cioffi, J. M.
310 *Least-squares storage-channel identification*

Clarke, John
492 see Abraham, David W.

Cooley, James W.
126 see Agarwal, Ramesh C.

Cooley, James W.
145 see Agarwal, Ramesh C.

Coombs, J. H. and J. B. Pethica
455 *Properties of vacuum tunneling currents: Anomalous barrier heights*

Author index for papers in Volume 30

Pages are numbered consecutively through the volume: 1–124, January; 125–228, March; 229–352, May; 353–440, July; 441–568, September, and 569–671, November.

Abraham, David W., H. Jonathon Mamin, Eric Ganz, and John Clarke
492 *Surface modification with the scanning tunneling microscope*

Agarwal, Ramesh C. and James W. Cooley
145 *Fourier transform and convolution subroutines for the IBM 3090 Vector Facility*

Agarwal, Ramesh C., James W. Cooley, Fred G. Gustavson, James B. Shearer, Gordon Slishman, and Bryant Tuckerman
126 *New scalar and vector elementary functions for the IBM System/370*

Aguilar, M., P. J. Pascual, and A. Santisteban
523 *Scanning tunneling microscope automation*

Arbab, Bijan
294 Compiling circular attribute grammars into Prolog

Baldeschwieler, John D.
484 see West, Paul

Barbosa, Lineu C.
321 *A maximum-energy-concentration spectral window*

Baró, A. M., R. Miranda, and J. L. Carrascosa
380 *Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure*

Baxter, David V.
484 see West, Paul

Becker, Jordan
541 see Schroer, Peter H.

Behm, R. J.
403 see Hösler, W.

Berghaus, Th., H. Neddermeyer, and St. Tosch
518 *A scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces*

Bhushan, B.
203 see Bradshaw, R.

Binnig, G. and H. Rohrer
355 *Scanning tunneling microscopy*

Bradshaw, R., B. Bhushan, C. Kalthoff, and M. Warne
203 *Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide*

Brunner, A. J.
498 see Ringger, M.

Bryant, A.
387 Elrod, S. A.

Bullock, Joseph
635 see Winarski, Daniel J.

Büttiker, Markus and Rolf Landauer
451 *Traversal time for tunneling*

Cannon, D. M., W. R. Dempwolf, J. M. Schmalhorst, F. B. Shelledy, and R. D. Silkensen
270 *Design and performance of a magnetic head for a high-density tape drive*

Carnevali, Paolo, Piero Sguazzero, and Vittorio Zecca
574 *Microtasking on IBM multiprocessors*

Carrascosa, J. L.
380 see Baró, A. M.

Catach, Laurent
70 see Fargues, Jean

Cave, Robert J.
484 see West, Paul

Chiang, S. and R. J. Wilson
513 *Construction of a UHV scanning tunneling microscope*

Ching, Wai-Mee
594 *Program analysis and code generation in an APL/370 compiler*

Chow, William W.
635 see Winarski, Daniel J.

Cioffi, J. M.
310 *Least-squares storage-channel identification*

Clarke, John
492 see Abraham, David W.

Cooley, James W.
126 see Agarwal, Ramesh C.

Cooley, James W.
145 see Agarwal, Ramesh C.

Coombs, J. H. and J. B. Pethica
455 *Properties of vacuum tunneling currents: Anomalous barrier heights*

Corb, B. W.
498 see Ringger, M.

Cytron, Ron and Paul G. Loewner
603 *An automatic overlay generator*

de Lozanne, A. L.
387 see Elrod, S. A.

Dempwolf, W. R.
270 see Cannon, D. M.

Demuth, J. E., R. J. Hamers, R. M. Tromp, and M. E. Welland
396 *A scanning tunneling microscope for surface science studies*

Denk, W.
443 see Muralt, P.

Diel, H., N. Lenz, and H. M. Welsch
102 *An experimental computer architecture supporting expert systems and logic programming*

Driscoll, Graham C., Jr., and Donald L. Orth
583 *Compiling APL: The Yorktown APL translator*

Dugourd, Anne
70 see Fargues, Jean

Dürig, Urs, Dieter Pohl, and Flavio Rohner
478 *Near-field optical scanning microscopy with tunnel-distance regulation*

Easton, Malcolm C.
230 *Key-sequence data sets on indelible storage*

Eddy, William F. and Gabriel P. Pei
93 *Structures of rule-based belief functions*

Efrat, Ilan and Miron Tismenetsky
184 *Parallel iterative linear solvers for oil reservoir models*

Elrod, S. A., A. Bryant, A. L. de Lozanne, S. Park, D. Smith, and C. F. Quate
387 *Tunneling microscopy from 300 to 4.2 K*

Ennis, R. L., J. H. Griesmer, S. J. Hong, M. Karnaugh, J. K. Kastner, D. A. Klein, K. R. Milliken, M. I. Schor, and H. M. Van Woerkom
14 *A continuous real-time expert system for computer operations*

Fargues, Jean, Marie-Claude Landau, Anne Dugourd, and Laurent Catach
70 *Conceptual graphs for semantics and knowledge processing*

Feenstra, R. M. and A. P. Fein
466 Scanning tunneling microscopy of cleaved semiconductor *surfaces*

Fein, A. P.
466 see Feenstra, R. M.

Fink, Hans-Werner
460 *Mono-atomic tips for scanning tunneling microscopy*

Froehlich, Frederick B.
635 see Winarski, Daniel J.

Ganz, Eric
492 see Abraham, David W.

Garcia, N.
531 *Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers*

Gazdag, J., G. Radicati, P. Sguazzero, and H. H. Wang
172 *Seismic migration on the IBM 3090 Vector Facility*

Gimzewski, J. K. and A. Humbert
472 *Scanning tunneling microscopy of surface microstructure on rough surfaces*

Gomer, Robert
428 *Possible mechanisms of atom transfer in scanning tunneling microscopy*

Griesmer, J. H.
14 see Ennis, R. L.

Guenthner, Franz, Hubert Lehmann, and Wolfgang Schönfeld
39 *A theory for the representation of knowledge*

Güntherodt, H.-J.
498 see Ringger, M.

Gustavson, Fred G.
126 see Agarwal, Ramesh C.

Hailpern, Brent
609 see Huynh, Tien

Hamers, R. J.
396 see Demuth, J. E.

Hansma, P. K.
370 *Squeezable tunneling junctions*

Hidber, H.-R.
498 see Ringger, M.

Hirsch, P., W. Katke, M. Meier, S. Snyder, and R. Stillman
29 *Interfaces for knowledge-base builders' control knowledge and application-specific procedures*

Hoevel, Lee W.
609 see Huynh, Tien

Hösler, W., R. J. Behm, and E. Ritter
403 *Defects on the Pt(100) surface and their influence on surface reactions—A scanning tunneling microscopy study*

Hong, S. J.
14 see Ennis, R. L.

Humbert, A.
472 see Gimzewski, J. K.

Huynh, Tien, Brent Hailpern, and Lee V. Hoevel
609 *An execution architecture for FP*

Jaklevic, R. C.
411 see Kaiser, W. J.

Kaiser, W. J. and R. C. Jaklevic
411 *Spectroscopy of electronic states of metals with a scanning tunneling microscope*

Kalthoff, C.
203 see Bradshaw, R.

Karnaugh, M.
14 see Ennis, R. L.

Kastner, J. K.
14 see Ennis, R. L.

Katke, W.
29 see Hirsch, P.

Klein, D. A.
14 see Ennis, R. L.

Kolsky, Harwood G.
163 see Scarborough, Randolph G.

Kramar, John
484 see West, Paul

L'Abbate, A., C. Paoli, R. Porinelli, and M. G. Trivella
627 *A computerized autoradiographic technique for the simultaneous high-resolution mapping of myocardial blood flow and metabolism*

Landau, Marie-Claude
70 see Fargues, Jean

Landauer, Rolf
451 see Büttiker, Markus

Lang, Norton D.
374 *Electronic structure and tunneling current for chemisorbed atoms*

Lehmann, Hubert
39 see Guenthner, Franz

Lenz, N.
102 see Diel, H.

Loewner, Paul G.
603 *see Cytron, Ron*

Mamin, H. Jonathon
492 see Abraham, David W.

Martin, William R., Paul F. Nowak, and James A. Rathkopf
193 *Monte Carlo photon transport on a vector supercomputer*

Meier, M.
29 see Hirsch, P.

Milliken, K. R.
14 see Ennis, R. L.

Miranda, R.
380 see Baró, A. M.

Moura, A. V.
617 *Early error detection in syntax-driven parsers*

Muralt, P., D. W. Pohl, and W. Denk
443 *Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer*

Neddermeyer, H.
518 see Berghaus, Th.

Nowak, Paul F.
193 see Martin, William R.

Oelhafen, P. C.
498 *see Ringger, M.*

Orth, Donald L.
583 *see Driscoll, Graham C., Jr.*

Osterday, Thomas G.
635 *see Winarski, Daniel J.*

Paoli, C.
627 see L'Abbate, A.

Park, S.
387 see Elrod, S. A.

Pascual, P. J.
523 *see Aguilar, M.*

Patel, Arvind M.
259 *On-the-fly decoder for multiple byte errors*

Pel, Gabriel P.
93 *see Eddy, William F.*

Pethica, J. B.
455 *see Coombs, J. H.*

Pohl, Dieter W.
417 *Some design criteria in scanning tunneling microscopy*

Pohl, Dieter
478 see Dürig, Urs

Pohl, D. W.
443 see Muralt, P.

Porinelli, R.
627 see L'Abbate, A.

Prisgrove, Lindsay A. and Gerald S. Shedler
278 *Symmetric stochastic Petri nets*

Quate, C. F.
387 see Elrod, S. A.

Radicati, G.
172 see Gazdag, J.

Rathkopf, James A.
193 see Martin, William R.

Ringger, M., B. W. Corb, H.-R. Hidber, R. Schlögl, R. Wiesendanger, A. Stemmer, L. Rosenthaler, A. J. Brunner, P. C. Oelhafen, and H.-J. Güntherodt
498 *STM activity at the University of Basel*

Ritter, E.
403 see Hösler, W.

Rohner, Flavio
478 see Dürig, Urs

Rohrer, H.
355 see Binnig, G.

Rosenthaler, L.
498 see Ringger, M.

Santisteban, A.
523 see Aguilar, M.

Scarborough, Randolph G. and Harwood G. Kolsky
163 *A vectorizing Fortran compiler*

Schlögl, R.
498 see Ringger, M.

Schmalhorst, J. M.
270 see Cannon, D. M.

Schönfeld, Wolfgang
39 see Guenthner, Franz

Schor, M. I.
14 see Ennis, R. L.

Schroer, Peter H. and Jordan Becker
541 *Computer automation for scanning tunneling microscopy*

Sguazzero, Piero
574 see Carnevali, Paolo

Sguazzero, P.
172 see Gazdag, J.

Shearer, James B.
126 see Agarwal, Ramesh C.

Shedler, Gerald S.
278 *see Prisgrove, Lindsay A.*

Shelleby, F. B.
270 *see Cannon, D. M.*

Silkensen, R. O.
270 *see Cannon, D. M.*

Sipala, Paolo
242 see Stone, Harold S.

Slishman, Gordon
126 see Agarwal, Ramesh C.

Smith, D.
387 see Elrod, S. A.

Snyder, S.
29 see Hirsch, P.

Sowa, John F. and Eileen C. Way
57 *Implementing a semantic interpreter using conceptual graphs*

Stapper, C. H.
326 *On yield, fault distributions, and clustering of particles*

Stemmer, A.
498 see Ringger, M.

Stillman, R.
29 see Hirsch, P.

Stone, Harold S. and Paolo Sipala
242 *The average complexity of depth-first search with backtracking and cutoff*

Tismenetsky, Miron
184 see Efrat, Ilan
Tosch, St.
518 see Berghaus, Th.
Trivella, M. G.
627 see L'Abbate, A.
Tromp, R. M.
396 see Demuth, J. E.
Tuckerman, Bryant
126 see Agarwal, Ramesh C.

van de Walle, G. F. A.
507 see van Kempen, H.
van Emde Boas, Ghica and Peter van Emde Boas
80 *Storing and evaluating Horn-clause rules in a relational database*
van Emde Boas, Peter
80 see van Emde Boas, Ghica
van Kempen, H. and G. F. A. van de Walle
507 *Applications of a high-stability scanning tunneling microscope*
Van Woerkom, H. M.
14 see Ennis, R. L.
Vieira, S.
551 *The behavior and calibration of some piezoelectric ceramics used in the STM*
Walker, Adrian
2 *Knowledge systems: Principles and practice*
Wang, H. H.
172 see Gazdag, J.
Warne, M.
203 see Bradshaw, R.
Way, Eileen C.
57 see Sowa, John F.
Welland, M. E.
396 see Demuth, J. E.
Welsch, H. M.
102 see Diel, H.
West, Paul, John Kramar, David V. Baxter, Robert J. Cave, and John D. Baldeschwieler
484 *Chemical applications of scanning tunneling microscopy*
Wiesendanger, R.
498 see Ringger, M.
Wilson, R. J.
513 see Chiang, S.
Winarski, Daniel J., William W. Chow, Joseph G. Bullock, Frederick B. Froelich, and Thomas G. Osterday
635 *Mechanical design of the cartridge and transport for the IBM 3480 Magnetic Tape Subsystem*

Zecca, Vittorio
574 see Carnevali, Paolo

Subject index for papers in Volume 30

Each index entry below is accompanied by an author's name and a page number; the author index contains the title of the paper and the names of coauthors, if any. Communications are identified by (C).

Subject	*Author*	*Page*
Algorithms		
Automatic overlay generator	Cytron	603
Average complexity of depth-first search with backtracking and cutoff	Stone	242
Compiling circular attribute grammars into Prolog	Arbab	294
Fourier transform and convolution subroutines for the IBM 3090 Vector Facility	Agarwal	145
New scalar and vector elementary functions for the IBM System/370	Agarwal	126
Parallel iterative linear solvers for oil reservoir models	Efrat	184
Analytical methods		
Least-squares storage-channel identification	Cioffi	310
Maximum-energy-concentration spectral window	Barbosa	321
APL translation and compilation		
Compiling APL: The Yorktown APL translator	Driscoll	583
Program analysis and code generation in an APL/370 compiler	Ching	594
Artificial intelligence		
Conceptual graphs for semantics and knowledge processing	Fargues	70
Continuous real-time expert system for computer operations	Ennis	14
Experimental computer architecture supporting expert systems and logic programming	Diel	102
Implementing a semantic interpreter using conceptual graphs	Sowa	57
Interfaces for knowledge-base builders' control knowledge and application-specific procedures	Hirsch	29
Knowledge systems: Principles and practice	Walker	2
Storing and evaluating Horn-clause rules in a relational database	van Emde Boas	80
Structures of rule-based belief functions	Eddy	93
Theory for the representation of knowledge	Guenthner	39
Belief functions		
Structures of rule-based belief functions	Eddy	93
Biology		
Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure	Baró	380
Catalysis		
Defects on the Pt(100) surface and their influence on surface reactions—A scanning tunneling microscopy study	Hösler	403
Channel subsystem architecture		
Least-squares storage-channel identification	Cioffi	310
Chemistry		
Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide	Bradshaw	203
Coding theory		
On-the-fly decoder for multiple byte errors	Patel	259
Communications and communication networks		
Maximum-energy-concentration spectral window	Barbosa	321

Compilers and interpreters
Compiling APL: The Yorktown APL translator — Driscoll 583
Compiling circular attribute grammars into Prolog — Arbab 294
Early error detection in syntax-driven parsers — Moura 617
Microtasking on IBM multiprocessors — Carnevali 574
Program analysis and code generation in an APL/370 compiler — Ching 594
Vectorizing Fortran compiler — Scarborough 163

Computational complexity
Average complexity of depth-first search with backtracking and cutoff — Stone 242

Computational methods
Average complexity of depth-first search with backtracking and cutoff — Stone 242
New scalar and vector elementary functions for the IBM System/370 — Agarwal 126
Parallel iterative linear solvers for oil reservoir models — Efrat 184

Computer applications
Computer automation for scanning tunneling microscopy — Schroer 541
Computerized autoradiographic technique for the simultaneous high-resolution mapping of myocardial blood flow and metabolism — L'Abbate 627
Scanning tunneling microscope automation — Aguilar 523

Computer architecture
Execution architecture for FP — Huynh 609
Experimental computer architecture supporting expert systems and logic programming — Diel 102

Computer-controlled manipulators
Computer automation for scanning tunneling microscopy — Schroer 541
Scanning tunneling microscope automation — Aguilar 523

Computer operation
Continuous real-time expert system for computer operations — Ennis 14

Contamination technology
Yield, fault distributions, and clustering of particles — Stapper 326

Data structure and accessing
Computer automation for scanning tunneling microscopy — Schroer 541
Key-sequence data sets on indelible storage — Easton 230
Scanning tunneling microscope automation — Aguilar 523

Display technology
Computer automation for scanning tunneling microscopy — Schroer 541
Scanning tunneling microscope automation — Aguilar 523

Error detection and correction
Early error detection in syntax-driven parsers — Moura 617
On-the-fly decoder for multiple byte errors — Patel 259

Error recovery
Key-sequence data sets on indelible storage — Easton 230

Expert systems
Conceptual graphs for semantics and knowledge processing — Fargues 70
Continuous real-time expert system for computer operations — Ennis 14
Experimental computer architecture supporting expert systems and logic programming — Diel 102
Implementing a semantic interpreter using conceptual graphs — Sowa 57
Interfaces for knowledge-base builders' control knowledge and application-specific procedures — Hirsch 29
Knowledge systems: Principles and practice — Walker 2
Storing and evaluating Horn-Clause rules in a relational database — van Emde Boas 80
Structures of rule-based belief functions — Eddy 93
Theory for the representation of knowledge — Guenthner 39

Functional programming
Execution architecture for FP — Huynh 609

Geophysics
Parallel iterative linear solvers for oil reservoir models — Efrat 184
Seismic migration on the IBM 3090 Vector Facility — Gazdag 172

Graphics
Computer automation for scanning tunneling microscopy — Schroer 541
Scanning tunneling microscope automation — Aguilar 523

Image processing
Computer automation for scanning tunneling microscopy — Schroer 541
Computerized autoradiographic technique for the simultaneous high-resolution mapping of myocardial blood flow and metabolism — L'Abbate 627
Scanning tunneling microscope automation — Aguilar 523
Scanning tunneling microscope for surface science studies — Demuth 396
Scanning tunneling microscopy — Binnig 355

Interfaces
Interfaces for knowledge-base builders' control knowledge and application-specific procedures — Hirsch 29

I/O technologies
Key-sequence data sets on indelible storage — Easton 230
Least-squares storage-channel identification — Cioffi 310

Knowledge systems
- Conceptual graphs for semantics and knowledge processing — Fargues — 70
- Continuous real-time expert system for computer operations — Ennis — 14
- Experimental computer architecture supporting expert systems and logic programming — Diel — 102
- Implementing a semantic interpreter using conceptual graphs — Sowa — 57
- Interfaces for knowledge-base builder's control knowledge and application-specific procedures — Hirsch — 29
- Knowledge systems: Principles and practice — Walker — 2
- Storing and evaluating Horn-clause rules in a relational database — van Emde Boas — 80
- Structures of rule-based belief functions — Eddy — 93
- Theory for the representation of knowledge — Guenthner — 39

Large-scale computing
- Fourier transform and convolution subroutines for the IBM 3090 Vector Facility — Agarwal — 145
- Monte Carlo photon transport on a vector supercomputer — Martin — 193
- New scalar and vector elementary functions for the IBM System/370 — Agarwal — 126
- Parallel iterative linear solvers for oil reservoir models — Efrat — 184
- Seismic migration on the IBM 3090 Vector Facility — Gazdag — 172
- Vectorizing Fortran compiler — Scarborough — 163

Logic design and technology
- On-the-fly decoder for multiple byte errors — Patel — 259

Logic programming
- Compiling circular attribute grammars into Prolog — Arbab — 294
- Knowledge systems: Principles and practice — Walker — 2

Magnetic head design
- Design and performance of a magnetic head for a high-density tape drive — Cannon — 270

Magnetic head/disk interaction
- Least-squares storage-channel identification — Cioffi — 310

Magnetic recording
- Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide — Bradshaw — 203
- Design and performance of a magnetic head for a high-density tape drive — Cannon — 270
- Mechanical design of the cartridge and transport for the IBM 3480 Magnetic Tape Subsystem — Winarski — 635

Materials
- Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure — Baró — 380
- Applications of a high-stability scanning tunneling microscope — van Kempen — 507
- Behavior and calibration of some piezoelectric ceramics used in the STM (C) — Vieira — 551
- Chemical applications of scanning tunneling microscopy — West — 484
- Construction of a UHV scanning tunneling microscope — Chiang — 513
- Mono-atomic tips for scanning tunneling microscopy — Fink — 460
- Near-field optical scanning microscopy with tunnel-distance regulation — Dürig — 478
- Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces — Berghaus — 518
- Scanning tunneling microscopy — Binnig — 355
- Scanning tunneling microscopy of cleaved semiconductor surfaces — Feenstra — 466
- Scanning tunneling microscopy of surface microstructure on rough surfaces — Gimzewski — 472
- STM activity at the University of Basel — Ringger — 498
- Surface modification with the scanning tunneling microscope — Abraham — 492
- Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers — Garcia — 531
- Wide-range, low-operating-voltage, bimorph STM: Application as potientiometer — Muralt — 443

Mathematical functions and techniques
- Fourier transform and convolution subroutines for the IBM 3090 Vector Facility — Agarwal — 145
- New scalar and vector elementary functions for the IBM System/370 — Agarwal — 126
- Parallel iterative linear solvers for oil reservoir models — Efrat — 184

Mechanical design
- Design criteria in scanning tunneling microscopy — Pohl — 417
- Mechanical design of the cartridge and transport for the IBM 3480 Magnetic Tape Subsystem — Winarski — 635
- Scanning tunneling microscope for surface science studies — Demuth — 396
- Scanning tunneling microscopy — Binnig — 355
- Squeezable tunneling junctions — Hansma — 370

Mechanics
- Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide — Bradshaw — 203

Medical electronics
- Computerized autoradiographic technique for simultaneous high-resolution mapping of myocardial blood flow and metabolism — L'Abbate — 627

Memory management
- Automatic overlay generator — Cytron — 603

Models and modeling
Symmetric stochastic Petri nets — Prisgrove — 278

Natural language processing
Conceptual graphs for semantics and knowledge processing — Fargues — 70
Implementing a semantic interpreter using conceptual graphs — Sowa — 57
Theory for the representation of knowledge — Guenthner — 39

Optimization of programs
Vectorizing Fortran compiler — Scarborough — 163

Overlay structures
Automatic overlay generator — Cytron — 603

Parallel processing
Microtasking on IBM multiprocessors — Carnevali — 574

Parsers
Early error detection in syntax-driven parsers — Moura — 617

Particle physics
Monte Carlo photon transport on a vector supercomputer — Martin — 193

PC instrument automation
Computer automation for scanning tunneling microscopy — Schroer — 541
Scanning tunneling microscope automation — Aguilar — 523

Polymers
Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide — Bradshaw — 203

Programming and programming languages
Automatic overlay generator — Cytron — 603
Compiling APL: The Yorktown APL translator — Driscoll — 583
Execution architecture for FP — Huynh — 609
Microtasking on IBM multiprocessors — Carnevali — 574
Program analysis and code generation in an APL/370 compiler — Ching — 594
Vectorizing Fortran compiler — Scarborough — 163

Quality control
Yield, fault distributions, and clustering of particles — Stapper — 326

Quantum theory
Properties of vacuum tunneling currents: Anomalous barrier heights — Coombs — 455
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers — Garcia — 531
Traversal time for tunneling — Büttiker — 451

Relational databases
Storing and evaluating Horn-clause rules in a relational database — van Emde Boas — 80

Reliability
Yield, fault distributions, and clustering of particles — Stapper — 326

Remote sensing
Applications of a high-stability scanning tunneling microscope — van Kempen — 507
Chemical applications of scanning tunneling microscopy — West — 484
Construction of a UHV scanning tunneling microscope — Chiang — 513
Mono-atomic tips for scanning tunneling microscopy — Fink — 460
Near-field optical scanning microscopy with tunnel-distance regulation — Dürig — 478
Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces — Berghaus — 518
Scanning tunneling microscopy of cleaved semiconductor surfaces — Feenstra — 466
Scanning tunneling microscopy of surface microstructure on rough surfaces — Ginzewski — 472
STM activity at the University of Basel — Ringger — 498
Surface modification with the scanning tunneling microscope — Abraham — 492
Wide-range, low-operating-voltage, bimorph STM: Application as potientiometer — Muralt — 443

Scanning tunneling microscopy
Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure — Baró — 380
Applications of a high-stability scanning tunneling microscope — van Kempen — 507
Behavior and calibration of some piezoelectric ceramics used in the STM (C) — Vieira — 551
Chemical applications of scanning tunneling microscopy — West — 484
Computer automation for scanning tunneling microscopy — Schroer — 541
Construction of a UHV scanning tunneling microscope — Chiang — 513
Defects on the Pt(100) surface and their influence on surface reactions—A scanning tunneling microscopy study — Hösler — 403
Design criteria in scanning tunneling microscopy — Pohl — 417
Electronic structure and tunneling current for chemisorbed atoms — Lang — 374
Mono-atomic tips for scanning tunneling microscopy — Fink — 460
Near-field optical scanning microscopy with tunnel-distance regulation — Dürig — 478
Possible mechanisms of atom transfer in scanning tunneling microscopy — Gomer — 428
Properties of vacuum tunneling currents: Anomalous barrier heights — Coombs — 455
Scanning tunneling microscope automation — Aguilar — 523
Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces — Berghaus — 518
Scanning tunneling microscope for surface science studies — Demuth — 396

Scanning tunneling microscopy — Binnig — 355
Scanning tunneling microscopy of cleaved semiconductor surfaces — Feenstra — 466
Scanning tunneling microscopy of surface microstructure on rough surfaces — Gimzewski — 472
Spectroscopy of electronic states of metals with a scanning tunneling microscope — Kaiser — 411
Squeezable tunneling junctions — Hansma — 370
STM activity at the University of Basel — Ringger — 498
Surface modification with the scanning tunneling microscope — Abraham — 492
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers — Garcia — 531
Traversal time for tunneling — Büttiker — 451
Tunneling microscopy from 300 to 4.2 K — Elrod — 387
Wide-range, low-operating-voltage, bimorph STM: Application as potientiometer — Muralt — 443

Semiconductor yield analysis
Yield, fault distributions, and clustering of particles — Stapper — 326

Signal processing
Computer automation for scanning tunneling microscopy — Schroer — 541
Fourier transform and convolution subroutines for the IBM 3090 Vector Facility — Agarwal — 145
Least-squares storage-channel identification — Cioffi — 310
Maximum-energy-concentration spectral window — Barbosa — 321
Scanning tunneling microscope automation — Aguilar — 523

Simulation
Monte Carlo photon transport on a vector supercomputer — Martin — 193
Symmetric stochastic Petri nets — Prisgrove — 278
Yield, fault distributions, and clustering of particles — Stapper — 326

Solid state physics
Applications of a high-stability scanning tunneling microscope — van Kempen — 507
Behavior and calibration of some piezoelectric ceramics used in the STM (C) — Vieira — 551
Chemical applications of scanning tunneling microscopy — West — 484
Construction of a UHV scanning tunneling microscope — Chiang — 513
Electronic structure and tunneling current for chemisorbed atoms — Lang — 374
Mono-atomic tips for scanning tunneling microscopy — Fink — 460
Near-field optical scanning microscopy with tunnel-distance regulation — Dürig — 478
Possible mechanisms of atom transfer in scanning tunneling microscopy — Gomer — 428
Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces — Berghaus — 518

Scanning tunneling microscopy — Binnig — 355
Scanning tunneling microscopy of cleaved semiconductor surfaces — Feenstra — 466
Scanning tunneling microscopy of surface microstructure on rough surfaces — Gimzewski — 472
Spectroscopy of electronic states of metals with a scanning tunneling microscope — Kaiser — 411
STM activity at the University of Basel — Ringger — 498
Surface modification with the scanning tunneling microscope — Abraham — 492
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers — Garcia — 531
Wide-range, low-operating-voltage, bimorph STM: Application as potientiometer — Muralt — 443

Solid state theory
Properties of vacuum tunneling currents: Anomalous barrier heights — Coombs — 455
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers — Garcia — 531
Traversal time for tunneling — Büttiker — 451

Statistics
Yield, fault distributions, and clustering of particles — Stapper — 326

Storage devices
Key-sequence data sets on indelible storage — Easton — 230

Superconductivity
Squeezable tunneling junctions — Hansma — 370
Tunneling microscopy from 300 to 4.2 K — Elrod — 387

Surface science
Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure — Baró — 380
Applications of a high-stability scanning tunneling microscope — van Kempen — 507
Chemical applications of scanning tunneling microscopy — West — 484
Construction of a UHV scanning tunneling microscope — Chiang — 513
Defects on the Pt(100) surface and their influence on surface reactions—A scanning tunneling microscopy study — Hösler — 403
Electronic structure and tunneling current for chemisorbed atoms — Lang — 374
Mono-atomic tips for scanning tunneling microscopy — Fink — 460
Near-field optical scanning microscopy with tunnel-distance regulation — Dürig — 478
Possible mechanisms of atom transfer in scanning tunneling microscopy — Gomer — 428
Properties of vacuum tunneling currents: Anomalous barrier heights — Coombs — 455

Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces — Berghaus 518
Scanning tunneling microscope for surface science studies — Demuth 396
Scanning tunneling microscopy — Binnig 355
Scanning tunneling microscopy of cleaved semiconductor surfaces — Feenstra 466
Scanning tunneling microscopy of surface microstructure on rough surfaces — Gimzewski 472
Spectroscopy of electronic states of metals with a scanning tunneling microscope — Kaiser 411
Squeezable tunneling junctions — Hansma 370
STM activity at the University of Basel — Ringger 498
Surface modification with the scanning tunneling microscope — Abraham 492
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers — Garcia 531
Traversal time for tunneling — Büttiker 451
Tunneling microscopy from 300 to 4.2 K — Elrod 387
Wide-range, low-operating-voltage, bimorph STM: Application as potientiometer — Muralt 443

Thin films
Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure — Baró 380
Applications of a high-stability scanning tunneling microscope — van Kempen 507
Chemical applications of scanning tunneling microscopy — West 484
Construction of a UHV scanning tunneling microscope — Chiang 513
Mono-atomic tips for scanning tunneling microscopy — Fink 460
Near-field optical scanning microscopy with tunnel-distance regulation — Dürig 478
Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces — Berghaus 518
Scanning tunneling microscopy of cleaved semiconductor surfaces — Feenstra 466
Scanning tunneling microscopy of surface microstructure on rough surfaces — Gimzewski 472
Squeezable tunneling junctions — Hansma 370
STM activity at the University of Basel — Ringger 498
Surface modification with the scanning tunneling microscope — Abraham 492
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers — Garcia 531
Tunneling microscopy from 300 to 4.2 K — Elrod 387
Wide-range, low-operating-voltage, bimorph STM: Application as potientiometer — Muralt 443

Token-passing rings
Symmetric stochastic Petri nets — Prisgrove 278

Tree search
Average complexity of depth-first search with backtracking and cutoff — Stone 242

Vector processing
Fourier transform and convolution subroutines for the IBM 3090 Vector Facility — Agarwal 145
Monte Carlo photon transport on a vector supercomputer — Martin 193
New scalar and vector elementary functions for the IBM System/370 — Agarwal 126
Parallel iterative linear solvers for oil reservoir models — Efrat 184
Seismic migration on the IBM 3090 Vector Facility — Gazdag 172
Vectorizing Fortran compiler — Scarborough 163